

IN THE CLAIMS:

1. (Currently Amended) A cleaning apparatus for cleaning a member used in the semiconductor field, the apparatus comprising:

an endless conveyor comprising a plurality of belt sections, each belt section being located at a spaced location from an adjacent belt section;

5 a housing, said endless conveyor extending through said housing;

an air curtain producing means for producing an air curtain at one end of said housing;

a first water curtain producing means for producing a first water curtain in said housing;

a second water curtain producing means for producing a second water curtain in said housing;

10 a third water curtain producing means for producing a third water curtain in said housing, said air curtain and said first water curtain defining a precleaning section of said housing, said first water curtain and said second water curtain defining a cleaning section of said housing, said second water curtain and said third water curtain defining a rinsing section of said housing, said third water curtain and another end of said housing defining a drying section of
15 said housing;

a first plurality of first ~~one nozzle or plural~~ nozzles located in said precleaning section;

a second plurality of second nozzles located in said cleaning section of said housing;

a third plurality of third nozzles located said rinsing section of said housing; and

20 a jet mechanism for jetting a ~~mist-like~~ cleaning liquid in a mist state with a high pressure from the ~~one nozzle or the plural nozzles~~ said second plurality of second nozzles to the member

to be cleaned.

2. (Currently Amended) The cleaning apparatus according to claim 1, wherein the member is cleaned with ~~the nozzles~~ one of said second nozzles disposed in an ~~directions~~ upward direction and another of said second nozzles disposed in a downward direction.

3. (Currently Amended) The cleaning apparatus according to claim 1, wherein particle size of the jetted ~~mist-like~~ cleaning liquid is 100 μm or less.

4. (Currently Amended) The cleaning apparatus according to claim 1, wherein a pressure of the jetted ~~mist-like~~ cleaning liquid is in the range of from 0.2 to 0.4 MPa.

5. (Currently Amended) The cleaning apparatus according to claim 1, wherein the ~~mist-like~~ cleaning liquid is jetted in such a way that a gas is mixed into the cleaning liquid in a liquid state.

6. (Previously Presented) The cleaning apparatus according to claim 1, wherein the cleaning liquid is pure water added with surfactant.

7. (Previously Presented) The cleaning apparatus according to claim 1, wherein the cleaning liquid is pure water.

8. (Currently Amended) A cleaning system for cleaning a member used in the semiconductor field, the system comprising:

an endless conveyor for continuously transporting the member, said endless conveyor comprising a plurality of belt sections, each belt section being located at a spaced location from an adjacent belt section;

a housing having a first end and a second end, said endless conveyor extending through said housing;

an air curtain producing means for producing an air curtain at said first end of said housing;

a first water curtain producing means for producing a first water curtain in said housing;

a second water curtain producing means for producing a second water curtain in said housing;

a third water curtain producing means for producing a third water curtain in said housing, one end of said endless conveyor and said first end of said housing defining a loading section for receiving the member, said air curtain and said first water curtain defining a precleaning section of said housing, said first water curtain and said second water curtain defining a cleaning section of said housing, said second water curtain and said third water curtain defining a rinsing section of said housing, said third water curtain and said second end of said housing defining a drying section of said housing, said second end of said housing and another end of said endless conveyor defining an unloading section for receiving the member after the member has been cleaned;

a first plurality of first ~~one nozzle or plural~~ nozzles located in said precleaning section;

a second plurality of second nozzles located in said cleaning section of said housing;

a third plurality of third nozzles located said rinsing section of said housing;

25 a means for delivering cleaning liquid to said second plurality of second nozzles such
that said cleaning liquid is delivered at a high pressure to form a cleaning liquid mist, said
cleaning liquid mist being applied to the member via said second nozzles

a loader section for setting the member to be cleaned;

an unloader section for collecting the member; and

30 a transport stage for continuously transporting the member from the loader section to
the unloader section, wherein a cleaning section for cleaning the member with a mist-like
cleaning liquid is provided on the transport stage.

9. (Currently Amended) The cleaning system according to claim 8, wherein ~~the~~
~~cleaning section~~ said housing has an outer wall in the shape of a tunnel.

10. (Currently Amended) A cleaning system according to claim 8, further comprising:
wherein the cleaning section is constituted of the cleaning apparatus according to claim 1

5 a drain collecting tank extending along a length of said endless conveyor, said drain
collecting tank having a first collecting section, a second collecting section, a third collecting
section and a fourth collecting section, said first collecting section being located opposite said
precleaning section, said second collecting section being located opposite said cleaning section,

said third collecting section being located opposite said rinsing section, said fourth collecting section being located opposite said drying section, said first nozzles applying purified water to the member, said first collecting section receiving excess purified water applied to the member,
10 said second collecting section receiving excess cleaning liquid, said third nozzles applying purified water to the member, said third collecting section receiving excess purified water;

a surfactant supply reservoir;

a mixing tank;

a first buffer tank connected to said second plurality of second nozzles and said mixing
15 tank;

a second buffer tank connected to said first plurality of first nozzles;

a third buffer tank connected to said third plurality of third nozzles;

a pure water supply reservoir connected to said mixing tank, said second buffer tank and
20 said third buffer tank, said mixing tank receiving surfactant via said surfactant supply reservoir and pure water via said pure water supply reservoir to form a chemical solution, said first buffer tank receiving said chemical solution via said mixing tank and said excess cleaning liquid via said second collecting section to form said cleaning liquid, said second nozzles receiving said cleaning liquid from said first buffer tank at an increased pressure such that said cleaning liquid is applied to the member in a mist state, said second buffer tank receiving pure water via said
25 pure water supply reservoir and said excess purified water via said third collecting section to form said purified water, said first nozzles receiving said purified water via said second buffer tank, said third buffer tank receiving purified water from said pure water supply reservoir, said

third nozzles receiving said purified water via said third buffer tank; and

a main drain pipe, said first collecting section and said fourth collecting section being

connected to said main drain pipe.

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11. (Currently Amended) The cleaning system according to claim 8, wherein each belt section extends continuously in a longitudinal direction of said endless conveyor a transport stage for continuously transporting the member to be cleaned from the loader section to the unloader section is a conveyor type transport apparatus.

12. (Currently Amended) The cleaning system according to claim 8, wherein ~~[[an]]~~ said air curtain is ~~provided~~ located between the ~~loader~~ loading section and the precleaning section.

13. (Previously Presented) The cleaning system according to claim 8, wherein plural cleaning sections for cleaning the members with the mist-like cleaning liquid are consecutively disposed.

14. (Currently Amended) The cleaning system according to claim 13, wherein the ~~plural cleaning sections include at least a~~ said precleaning section for cleaning cleans the member with pure water, ~~a chemical solution cleaning section for cleaning the member with a~~ chemical solution, and a rinse section.

15. (Currently Amended) The cleaning system according to claim 14, wherein ~~as the cleaning liquid supplied in the precleaning section, the cleaning liquid used in the~~ said rinse section is used rinses the member with purified water.

16. (Currently Amended) The cleaning system according to claim 8, wherein ~~a water curtain is provided after the cleaning section~~ said one end of said endless conveyor is located at a spaced location from said first end of said housing, said another end of said endless conveyor being located at a spaced location from said second end of said housing.

17. (Currently Amended) The cleaning system according to claim 8, further comprising a drying means located in said drying section for drying the member and ~~wherein a drying section removing a liquid attached to the member to be cleaned by~~ via air is installed after the member passes through the cleaning section.

18 - 23. (Canceled)

24. (New) A cleaning apparatus for cleaning a member used in the semiconductor field, the apparatus comprising:

an endless conveyor comprising a plurality of belt sections, each belt section being located at a spaced location from an adjacent belt section;

a drain collecting tank extending along a length of said endless conveyor, said drain

collecting tank having a first collecting section, a second collecting section, a third collecting section and a fourth collecting section;

a housing, said endless conveyor extending through said housing;

an air curtain producing means for producing an air curtain at one end of said housing;

10 a first water curtain producing means for producing a first water curtain in said housing;

a second water curtain producing means for producing a second water curtain in said housing;

a third water curtain producing means for producing a third water curtain in said housing, said air curtain and said first water curtain defining a precleaning section of said housing, said first water curtain and said second water curtain defining a cleaning section of said housing, said second water curtain and said third water curtain defining a rinsing section of said housing, said third water curtain and another end of said housing defining a drying section of said housing, said first collecting section being located opposite said precleaning section, said second collecting section being located opposite said cleaning section, said third collecting section being located opposite said rinsing section, said fourth collecting section being located opposite said drying section;

20 a first plurality of first nozzles located in said precleaning section, said first nozzles applying purified water to the member, said first collecting section receiving excess purified water applied to the member;

25 a second plurality of second nozzles located in said cleaning section of said housing, said second nozzles applying a cleaning liquid to the member, said second collecting section

receiving excess cleaning liquid;

a third plurality of third nozzles located said rinsing section of said housing, said third nozzles applying purified water to the member, said third collecting section receiving excess purified water;

a surfactant supply reservoir;

a mixing tank;

a first buffer tank connected to said second plurality of second nozzles and said mixing tank;

a second buffer tank connected to said first plurality of first nozzles;

a third buffer tank connected to said third plurality of third nozzles;

a pure water supply reservoir connected to said mixing tank, said second buffer tank and said third buffer tank, said mixing tank receiving surfactant via said surfactant supply reservoir and pure water via said pure water supply reservoir to form a chemical solution, said first buffer tank receiving said chemical solution via said mixing tank and said excess cleaning liquid via said second collecting section to form said cleaning liquid, said second nozzles receiving said cleaning liquid from said first buffer tank at an increased pressure such that said cleaning liquid is applied to the member in a mist state, said second buffer tank receiving pure water via said pure water supply reservoir and said excess purified water via said third collecting section to form said purified water, said first nozzles receiving said purified water via said second buffer tank, said third buffer tank receiving purified water from said pure water supply reservoir, said third nozzles receiving said purified water via said third buffer tank;

a main drain pipe, said first collecting section and said fourth collecting section being connected to said main drain pipe.